

Storm Fury on the Plains

Fall Spotter Newsletter

November 2012

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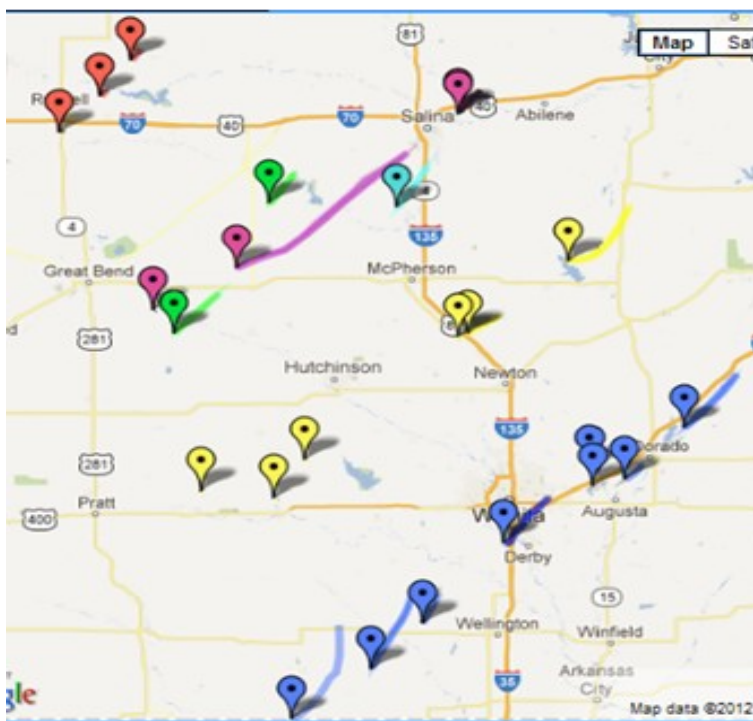
2012 13
Significant
Weather
Summary

April 14th, 2012

Tornado Outbreak

By: NWS Wichita

April 14th, 2012 will go down as one of the more prolific days in severe weather history for central and southeast Kansas. In all, a total of 24 tornadoes touched down across the 26 counties served by the NWS Wichita, KS office. Of those 24 tornadoes, one was rated as an EF4 (winds up to 199 mph), and two were rated as EF3's (winds up to 167 mph). One surprising and fortunate statistic from this major event was the lack of injuries and fatalities' considering that significant structural damage was noted to several homes and businesses. Each of the tornadoes classified as violent or strong were reported up to one mile in width at several points along their particular paths. Two other facts make this event memorable. First the NWS Wichita utilized enhanced hazard im-



The different lines mark the paths of several tornadoes that touched down on April 14th. The marker shows where it touched down and the end of the line is where it lifted. The different colors mark different supercells.

impact wording contained within the new Impact Based Warnings. Secondly, the Weather Channel broadcasted live from the NWS Wichita facility for approximately 9 hours. This was the first time that the Weather Channel had access and broadcasted all facets of the event from the floor of the National Weather Service. This gave the public a unique perspective of how a NWS office operates during a severe weather event. More detailed information about this event can be found at the following web-

During the day and evening of April 14th, the multiple supercells organized themselves into a couple of different southwest to northeast lines. We have broken the supercells and tornadoes up into 3 groups and they are talked about below.

Central Kansas Tornadoes



Photo courtesy of Will Campbell



EF 4 damage of home near Kanopolis Lake

“...Tornado caused EF4 damage south of Kanopolis Lake”

Multiple supercell thunderstorms affected central Kansas on Saturday April 14th. The first one tracked across Russell County around 1:30 pm producing a few brief tornado touch-downs. Around 5:30 pm the most intense supercell moved into Rice County and eventually produced a long track tornado as it moved off to the northeast. This tornado caused EF4 damage south of Kanopolis Lake. The tornado then briefly lifted before touching back down northeast of Salina and produced EF1 damage. (See Figure 1, colors red, green, pink, and aqua blue markers)

Another tornado occurred later that night, and mainly affected locations southwest of Lyons producing EF1 damage.

Harper, Sumner, Sedgwick, Butler County Tornadoes

The supercell thunderstorm that produced these tornadoes (See Figure 1, blue markers) moved north out of Oklahoma and crossed the KS-OK border NW of Manchester, OK. The first tornado traveled northeast for about 24 miles producing EF1 damage along its path. This tornado weakened and eventually lifted as it moved toward Danville, KS. However, another tornado formed along the supercell's southeast flank and touched down south of Argonia, KS.

Be sure to find

US National Weather Service Wichita Kansas

on Twitter at **@NWSWichita**



Also be sure to check if your county Emergency Manager has a Twitter account for your county.



Photo courtesy of Brandon Ivey



EF 3 damage to a home near the Oaklawn Neighborhood in Southwest Wichita



EF 3 Damage to home near Conway Springs.

This tornado tracked to the northeast for about 18 miles and produced up to EF3 damage. The most significant damage occurred southwest of Conway Springs when it deconstructed a two story home. This supercell continued to cycle and developed another tornado along its southeast flank near Milan. This tornado remained on the ground for around 7 miles and produced up to EF1 damage east of Conway Springs.

The next tornado with this supercell formed over southern Sedgwick County near the southern part of Haysville. This tornado produced up to EF3 damage as it continued to travel to the northeast for 13 miles. The most severe damage occurred around the Oaklawn area of southeast Wichita. This tornado continued to

weaken as it moved into Butler County with sporadic weak tornado damage which occurred southwest of El Dorado and west of Cassoday.

McPherson and Marion County Tornadoes

Around 8pm, another supercell moved into the area and caused tornadoes in south central Kansas (See Figure 1, yellow markers). The first tornado associated with this storm touched down west of Kingman and produced a few very brief tornadoes as it moved across Kingman and southeast Reno County. Just to the east of Moundridge a stovepipe tornado formed and briefly lifted as it crossed the interstate. It then touched back down just east of I-135 and continued northeast causing EF1 damage to a home west/southwest of Goessel.

The tornado lifted as it approached Hillsboro and touched back down just east of Marion Lake then traveled northeast for about 17 miles. This tornado produced EF1 damage south of Pilsen and southeast of Lost Springs.



(Top) EF0-EF1 Damage to home near Lost Springs, KS in Marion County. (Bottom) Photo courtesy of Robb Lawson

Thank you for
your Service
Leon, we will
miss you!

NWS Wichita says Good-bye to Leon Wasinger after 38 years of Federal service

Leon Wasinger is a native of southwest Kansas. Oldest of nine children, he grew up on a farm near Scott City. While in high school he and his family moved to Garden City where he graduated in 1969. Following his high school graduation, he went to Garden City County Community College where he majored in Agriculture. After a couple years of college and working in the Garden City area, he joined the Navy in 1971. Following Basic Training he went to Air Traffic Controller School, and his first assignment was at the Naval Air Station in Corpus Christi, TX. Leon quickly learned that being an Air Traffic Controller was not what he wanted to do with his career. He then extended his naval enlistment by a year and a half and cross rated to the Naval weather program. Next Leon went to the Naval weather school at Lakehurst, NJ and became a Aerographer's Mate (Navy weather observer) and served 3 years aboard the Aircraft Carrier John F. Kennedy.

He got out of the Navy in 1975 and returned to the Garden City area. Then Leon joined the National Weather Service in Garden City as a radar observer for 12 years. During this period he met his wife Susan who worked across the hall at the FAA Flight Service Station as a flight controller. When the Garden City office was closed down in 1993 due to modernization of the National Weather Service, he and his family transferred to the Wichita forecast office. During his 20 years at the Wichita office, he was instrumental in the transfer of the Cooperative Observer Program duties from the Topeka Weather Office to the Wichita Office. Leon was also given various awards on several occasions for his work enhancing the Cooperative and Climatology Programs not only across central and southeast Kansas but also for helping other NWS offices across the United States with their programs.

Leon and his wife Susan have two children, Robert and Elizabeth, who are now in college. Leon and his family will remain in the Wichita area for the foreseeable future.



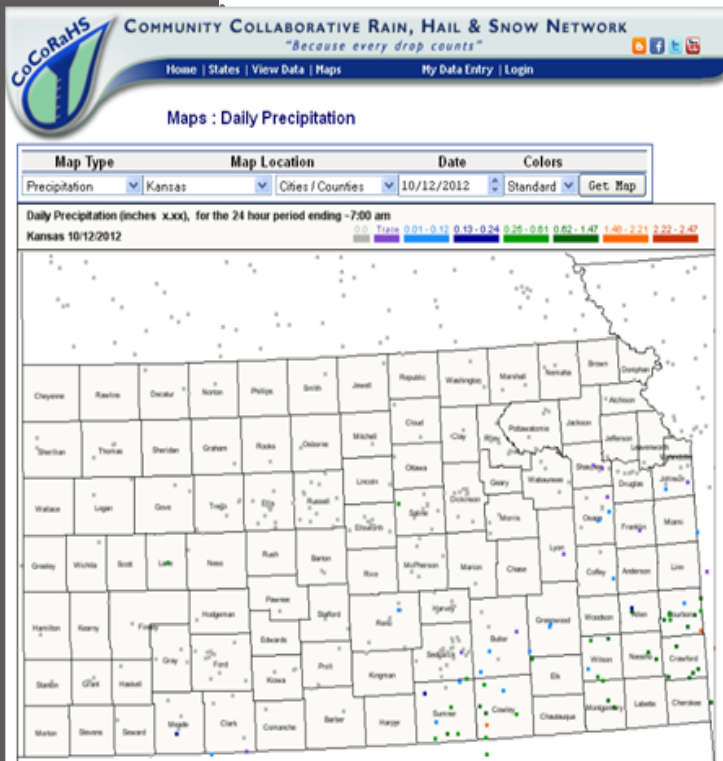
Enjoy Retirement Leon!

“CoCoRaHS is a community project and open to everyone”



What is CoCoRaHS?

CoCoRaHS is an acronym for the Community Collaborative Rain, Hail and Snow Network. CoCoRaHS is a unique, non-profit, and community-based network of volunteers working together to measure precipitation. By using measurement tools, training and education, and utilizing an interactive web-site, the aim is to provide the highest quality data for natural resource, education and research applications. They have observers in all fifty states.



Who can participate?

CoCoRaHS is a community project and open to everyone. The only requirements are: 1. an enthusiasm for watching and reporting weather conditions and 2. a desire to learn more about how weather can effect and impact lives.

What does a volunteer observer do?

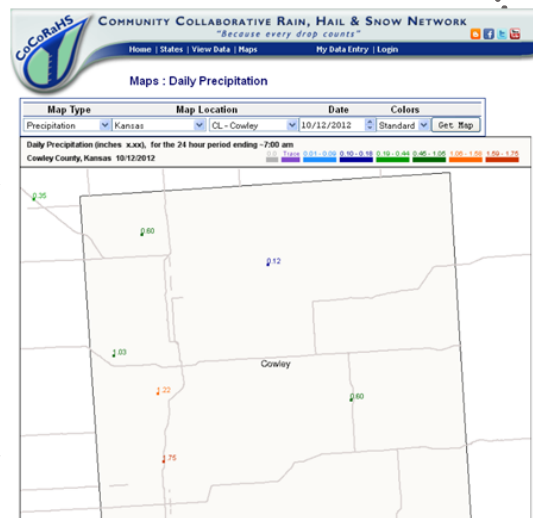
Each time a rain, hail or snow storm impacts a volunteer, they take measurements of the precipitation using a rain gauge that is provided. These precipitation reports are then recorded on the web-site <http://www.cocorahs.org/>

These data are then displayed and organized for a variety of users. A few of the images are included.

<http://www.cocorahs.org/>

Who sponsors this network?

The National Oceanic and Atmospheric Administration (NOAA) and the National Science Foundation (NSF) are major sponsors of CoCoRaHS. Other organizations have contributed either financially, and/or with supplies and equipment. The list of sponsors continues to grow and individuals have also pitched in time and resources to help keep the network up and running.



How can you sign up?

Go to <http://www.cocorahs.org/Application.aspx> to sign up as a CoCoRaHS Volunteer Observer or download a .pdf version of our application at the following url: <http://www.cocorahs.org/Media/docs/CoCoRaHSVolunteerApplication.pdf> and return it as soon as possible.

Kansas Suffers Through Another Summer Of Exceptional Drought

By: Eric Schminke

From a seasonal average temperature standpoint, this most recent summer wasn't quite as hot as its 2011 predecessor. However, temperatures were hot enough to play key roles in the development of another extreme to exceptional drought that plagued Kansas this summer. In fact, of the three primary climate sites (Wichita, Salina, and Chanute) only Wichita experienced heat that was intense enough to enable 2012 to gain admission into the Ten Hottest Summers "fraternity" by averaging 82.7 degrees. This made 2012 the Air Capital's 6th hottest summer on record (Figure 1). However, for the rest of the region, the temperature password was consistency. Before we proceed with the description of the drought and how it evolved, we must first reintroduce you to the various drought classifications.

There are 4 drought classifications:

◆ Exceptional Drought (D4):

D4

Crop and pasture losses are widespread and catastrophic. An exceptional fire danger exists. Water shortages in reservoirs, rivers, streams and wells are widespread resulting in water emergencies.

◆ Extreme Drought (D3):

D3

Crop and pasture losses are major. An extreme fire danger exists. Water shortages are widespread and, restrictions are possible.

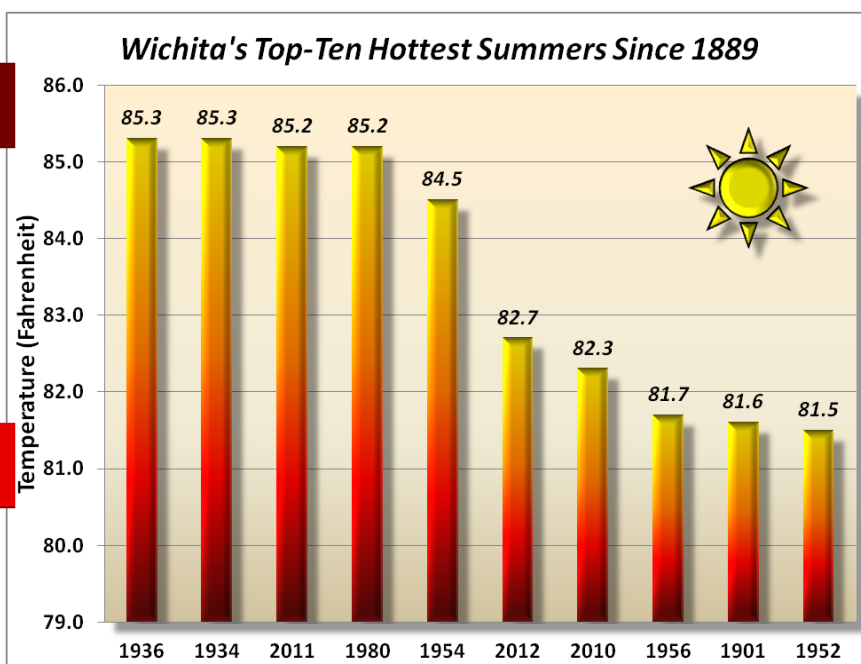


Figure 1

♦ **Severe Drought (D2):**

D2

Crop and pasture losses are high. A very high fire danger exists. Water shortages are common that may require water use restrictions.

♦ **Moderate Drought (D1):**

D1

Some damage to crops and pasture is possible. A high fire danger exists. Some water shortages develop or are imminent that may result in requesting that water use be restricted.

The Meteorology and Climatology

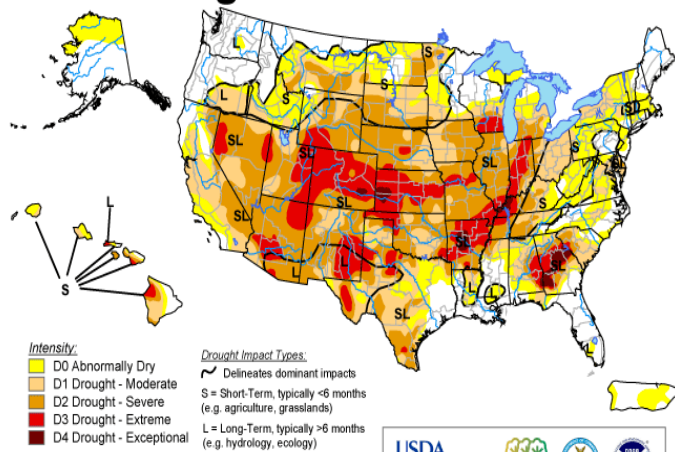
Meteorological summer runs from June 1st to August 31st. Of the 3 months, the greatest culprit to this summer's drought was July for it was not only extremely hot but extremely dry as well. June also played a significant role especially from a temperature standpoint.

For many areas, June 2012 was one of the 10 hottest on record. For Salina, 2012 was their 7th hottest on record with a monthly average of 80.3 degrees. For Wichita, 2012 was the 11th hottest on record with an average of 79.7 degrees which was just 0.3 degree shy of reaching the Top 10 "fraternity". In addition, most areas received rainfalls that were 45-50% of normal.

In July, the furnace not only continued to run at full throttle, but the faucet was turned off for most of the month. In July, Wichita's average temperature was a blistering 88.2 degrees which placed the 2012 edition in a tie for 4th place for the Air Capital's hottest on record. Three high temperature records were set and a 4th was tied. It was also Wichita's 6th driest July on record with only 0.26 of an inch of rain measured.

Salina's average July temperature was 87.4 degrees which also made 2012 their 4th hottest on record. Salina did manage to measure 2.04 inches of rain which was 47% of normal.

U.S. Drought Monitor

July 17, 2012
Valid 7 a.m. EDT

The Drought Monitor focuses on broad-scale conditions. Local conditions may vary. See accompanying text summary for forecast statements.

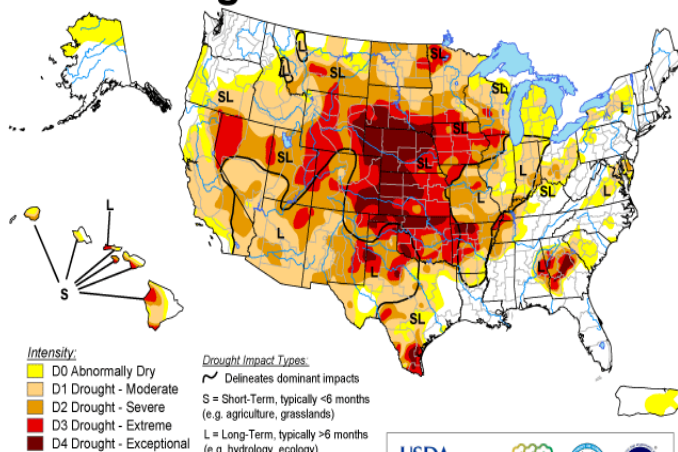
<http://droughtmonitor.unl.edu/>



Released Thursday, July 19, 2012

Author: Richard Heim/Liz Love-Brotak, NOAA/NESDIS/NCDC

U.S. Drought Monitor

October 2, 2012
Valid 7 a.m. EDT

The Drought Monitor focuses on broad-scale conditions. Local conditions may vary. See accompanying text summary for forecast statements.

<http://droughtmonitor.unl.edu/>



Released Thursday, October 4, 2012

Author: Anthony Artusa, NOAA/NWS/NCEP/CPC

Figure 2

Chanute's 85.7 degree average made 2012 their 6th hottest July on record. In addition their woeful 1.00 inch of rain made 2012 their 15th driest July all-time.

But as hideously hot as this summer was, it was in spring that nature really started to turn up the heat. In fact, it was the hottest on record by a huge margin. Wichita's average temperature this spring was a sizzling 64.4 degrees which burned the previous record of 59.9 degrees set in 2006 by 4.5 degrees. Salina's average spring temperature was 62.9 degrees an even 4 degrees hotter than the previous record-holder 1946 (when Salina averaged 58.9 degrees.) Chanute's average of 63.8 degrees broke the record of 60.3 degrees set in 1936 by 3.5 degrees. So in this particular 'heat', 2012 really 'jumped the gun.'

Fortunately, rainfalls from February to April were above normal, primarily in south-central and southeast Kansas where most areas were between 2 and 5 inches above normal during the 3-month period. The surplus certainly kept the drought in check but that changed quickly in May. It was in central Kansas that the most 'precipitous drop' in rainfall occurred. Salina measured a feeble 0.40 of an inch of rain which made 2012 their 2nd driest May on record and was an ominous 4.35 inches below normal. By far, May has been the greatest culprit in Salina's much below normal rainfall this year. As of September 30th, Salina was an abysmal 10.65 inches below normal. In fact, the only month in which they've received above normal precipitation this year has been February when 2.02 inches were measured.

The Drought's History

At the end of May, only part of central Kansas was in a moderate (D1) drought while south-central Kansas was considered "abnormally dry". In southeast Kansas, all was normal. Figure 2 contains an image from July 17th and one from October 2nd showing how the drought has worsened and expanded.

In June, the cumulative effects of the record-setting heat of the spring and an exceptionally dry May began to manifest themselves. The drought slowly but gradually worsened with central and south-central Kansas "achieving" a severe (D2) rating while the drought in southeast Kansas was just beginning. In early July, the drought intensified considerably with parts of central Kansas in extreme (D3) status, and much of south-central and part of southeast Kansas deteriorated to a severe drought. By month's end, the extreme drought (D3) had spread south across all of south-central and southeast Kansas.

By mid-August, an exceptional drought (D4) had gripped all of central and southeast Kansas while an extreme drought (D3) plagued most of south-central Kansas. Although the most intense of the drought rating scale would plague central and southeast Kansas thru mid-September, three or four cold fronts crossed Kansas in September bringing much needed rainfall and cooler temperatures. Two cold fronts decelerated as they crossed the southeast Kansas/northeast Oklahoma border. This brought prolonged rains to the region from the 13th to the 15th. The last of the cold fronts brought strong to severe thunderstorms that produced very heavy rains on the 25th. In fact, Chanute measured 2.28 inches to set a record for the date and accounted for the 5.20 inch September total.

Due to the beneficial September rainfall, the drought began to ease its grip on south-central and especially southeast Kansas as September signed off. In early October, the areal coverage of exceptional drought had greatly diminished, being confined to central Kansas generally along and west of I-135. An extreme drought still plagued most of the remaining areas, but there are indications the drought should ease even further this fall.

Agricultural Effects

All of these factors from the spring and summer of 2012 put obviously tremendous stress on crops, pastures, and other vegetation. Many areas have experienced extreme drought for 2 or 3 years this will cause the recovery time for native grasses to be lengthy and require reduced stocking rates.

Livestock also suffered terribly. Livestock producers were forced to move their animals off of pasture early because the grass was gone and the water supply was depleted. As of September 10th, farmers and ranchers with cow/calf operations had been feeding hay for a couple of months. They were also forced to either deplete part of their herds or purchase high-priced feed. There is no doubt the economic ramifications were significant. Cash flows on almost all livestock operations were severely impacted, and in many cases operators with cattle were forced to sell livestock early which resulted in less income. Those who held on to their cattle had to buy expensive feed which also resulted in lost revenue.

Drought Outlook

As of November 15th, despite some precipitation across the area, the drought is expected to persist across the Kansas and much of the central and western portions of the country. Unfortunately, much of central and southeast Kansas still has significant deficits of rain and nearly 5 to 12 inches of additional rainfall are still needed to break the drought. See Figure 3.

Note: The author wishes to express a 1,000-fold "Thank You" to the Kansas Department of Agriculture's detailed response to the USDA's request for information on how agricultural interests have been affected by the Drought of 2012. The author also wishes to thank Ray Wolf, Science and Operations Officer in Davenport, Iowa, who forwarded the report to nearby Weather Forecast Offices for their review and information, as well as to Andy Kleinsasser, who assembled the bar graphs that appear at the end of this article.

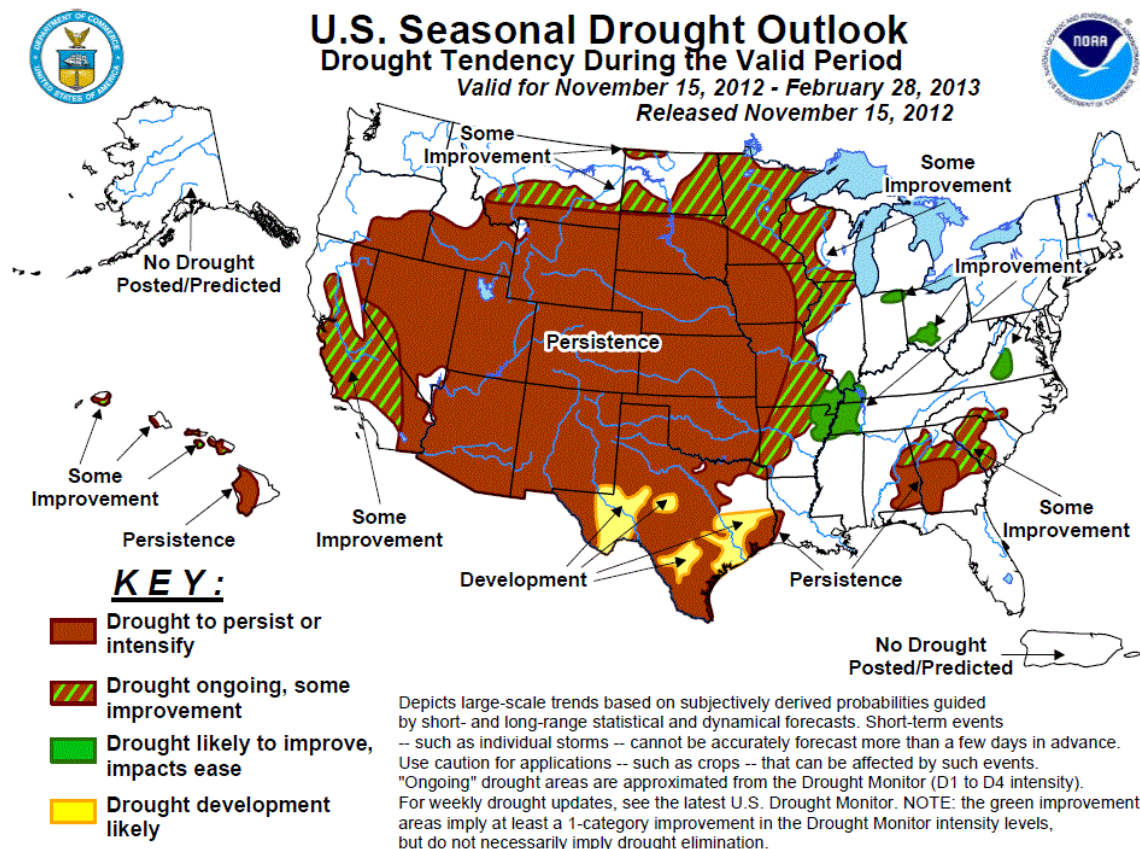


Figure 3

Curing Observers Wanted!!!

Most crop and pasture species possess a life cycle in which the plant annually dies or becomes dormant and dries out, creating the potential for the uncontrolled spread of fire. This annual drying process is termed curing. Grassland curing is a key component when computing the grassland fire danger index.

The National Weather Service (NWS) in Wichita is seeking observers to report the amount of curing to help with our fire weather program. If you would like to participate as a curing observer, please e-mail us at w-ict.webmaster@noaa.gov and we will send you a curing guide so you can provide routine reports.



2012 Cooperative Observer Awards

*By: Jerilyn Billings, Meteorologist and
Leon Wasinger, Operations Program Leader*

The following Cooperative Observers were presented Length of Service Awards in 2012. We would like to thank and congratulate our observers for volunteering their time in providing us with the climatic data which is published by the National Climatic Data Center on a monthly basis and made available to the private, public, and government entities. Their dedication to service is greatly appreciated!

<u>Observer</u>	<u>Station</u>	<u>Years</u>	<u>Observation</u>
Bernard Kraus	Conway Springs	10	Precipitation
Tom Stevenson	Chanute No. 1	15	Precipitation and Temperature
David Leroy	Albert 5 SE	15	Precipitation
Ross M Janssen	Geneseo	15	Precipitation
Deborah J. Wall	Cedar Vale 5SSE	20	Precipitation
Gerald R. Fitch	Argonia	25	Precipitation
Leo Noland	Longton	30	Precipitation
Iola Water Plant (Institutional Award)	Iola	107	Precipitation and Temperature

Ken Thompson, Electronics Systems Analyst Retires after 38 Years of Federal Service

Kenneth Thompson is a native of southeast Kansas. Ken grew up on a farm near Garnett, KS. He graduated from high school in Garnett in 1971. Following graduation he joined the Air Force and served until 1976. Once out of the Air Force, he then went into the Air National Guard and worked on aircraft at McConnell AFB. He also went to college and obtained a Bachelor's Degree in Industrial Management.

In 1987 he joined the National Weather Service and worked as an Electronics Technician in Billings, MT. Then in 1988 he transferred to Dodge City, Kansas. In 1991 the Dodge City Office was the first office in Kansas to get the WSR-88D Doppler Radar and just the third office across the United States with this capability. Ken was the first in Kansas to be promoted to the Electronics Systems Analyst which was a new position to oversee the Electronics Technician Staff and oversee the maintenance of the new radar and other equipment including the upcoming ASOS and AWIPS. In 1995 he transferred to the Topeka National Weather Service Office then came to Wichita in 2001. While in Wichita he was awarded on numerous occasions for his leadership in maintaining the weather equipment in one of the most weather active places in the United States at the highest level.

Ken and his wife Theresa will remain in the Rose Hill area.



**Thank
you for
all your
Service
Ken! You
will be
missed!**

facebook

US National Weather Service Wichita Kansas

Be sure to find

on facebook

Also be sure to check if your county Emergency Manager has a facebook page for your county.

Significant Weather Summary for Central and Southeast Kansas

By: Chance Hayes

Severe weather season 2012 was quite an active year across central and southeast Kansas. For the 26 counties we serve, we saw an above average number of tornadoes with a total of 42 touching down. Our yearly average since 1950 is 19.09 tornadoes. However, when looking at the 3 and 5 year running averages those numbers rise to 30.33 and 34.8 tornadoes respectively. April 2012 had 24 tornadoes touch down in our jurisdiction, that is the second highest total since 1950 and the most since 26 touched down in 1984.

As we look at the total severe weather event numbers (tornado, high wind, and hail) for the state of Kansas we will see that the state of Kansas ranked fourth in the country this past season with a preliminary total of 985 severe reports. However, I would surmise that Kansas would have been second behind Texas if we were to take out the high wind reports due to hurricanes. For Kansas, the preliminary number of tornado reports were 145 which is the highest total in the US for this severe weather season. Other severe reports included 418 hail reports, and 422 high wind reports. .

Below you will find individual summaries for many of the more significant severe weather days this past season. April 14th, the most significant severe weather day (Cover story) and the exceptional drought (Page 7) that impacted the region are covered separately.

February 20th, 2012 Severe Storms



Courtesy Andrew Gagnon

There was an early start to the severe weather season as a line of storms developed during the late afternoon hours of Monday February 20th and rapidly pushed east during the early evening hours. This line of storms produced large amounts of dime to nickel size; some hail was as large as quarters. Severe winds also accompanied the stronger storms which caused damage across parts of south central and southeast Kansas.

Meteorological Background: An intense upper level low pressure system quickly moved out of the Rockies and across Kansas on February 20th, 2012.

Due to the fast movement of this system, rich surface moisture never had time to make it into Kansas with dewpoints only in the 40s by the afternoon hours. However, this upper level low pressure system possessed very cold mid and upper level air which created just enough instability to allow storms to produce hail and damaging winds.



Courtesy Hutch News

Rare February Tornadoes Impact South Central and Southeastern Kansas February 28th, 2012

A vigorous upper level system brought unusually rich gulf moisture northward into Kansas during the day on Tuesday February 28th. A line of thunderstorms developed along a dryline over central and south cen-



Top and Bottom Photo Feb. 28th,
Bottom Photo Courtesy
of Brandon Ivey

tral Kansas around 5pm once it encountered the deeper moisture. Severe weather began to break out over the region shortly thereafter with a tornado briefly observed in Reno County. The line of storms continued to race eastward producing damaging wind speeds of 60 to 110 mph and large hail ranging from walnut to baseball size. There were even a few storm related injuries reported in Labette County as the line of severe storms pushed through that area after 10pm.



May 19th

May 19th Kingman & Harper County Tornadoes

This day started with two very weak tornadoes touching down to the west and northwest of Kingman. These tornadoes were very weak and did not last very long, only causing minimal damage. However, as the storm system continued to move to the southeast, it encountered a stationary boundary which enhanced the tornado potential and eventually produced two EF3 tornadoes. One of the EF3 tornadoes moved through a wind farm and caused extensive damage to a few of the turbines. We were fortunate to get an accurate wind speed reading of 166 mph from a crane that was toppled over by the tornado. These wind speeds were from a height of approximately 225 feet above ground level. The second EF3 tornado occurred when a tornado moved through a farmstead and produced significant damage to several barns, vehicles, and a home. Fortunately, no injuries were sustained.

May 25th tornadoes in Central Kansas

Four tornadoes skirted the outskirts of Russell in central Kansas. The strongest was rated as an EF2, as it moved through a small housing area located just south of Interstate 70. The tornado produced extensive damage to four homesteads.



Top and Bottom Photo May 19th,

May 30th Large Hail and Damaging Winds

Severe storms developed over central Kansas between 3 and 4 pm on Wednesday May 30th. These storms quickly became severe producing hail slightly larger than golf balls. Between 5 and 6 pm, additional storms developed over south central Kansas with one of the storms dumping up to 2 inch diameter hail as it tracked across Wichita. Toward sunset the storms eventually formed into a line and raced



May 30th, Photo Courtesy of Deanna Fehrenbacher



May 30th

south while producing damaging winds up to 70 mph.

September 7th Large Hail and Damaging Winds

A potent cold front moved southeast across the state of Kansas on Friday, September 7th. Showers and thunderstorms began to develop along the front early Friday morning as it pushed through southern Nebraska and central Kansas. This front quickly moved through the state with the surge of cold air to follow. The collision of the cold air with the pre-existing instability helped the development of showers and thunderstorms even after the front had passed through. These storms produced winds of 60 to 80 mph and hail as large as golf balls.



Sept. 7th, Courtesy Richard Putnam



Sept. 7th, Courtesy John Lavin



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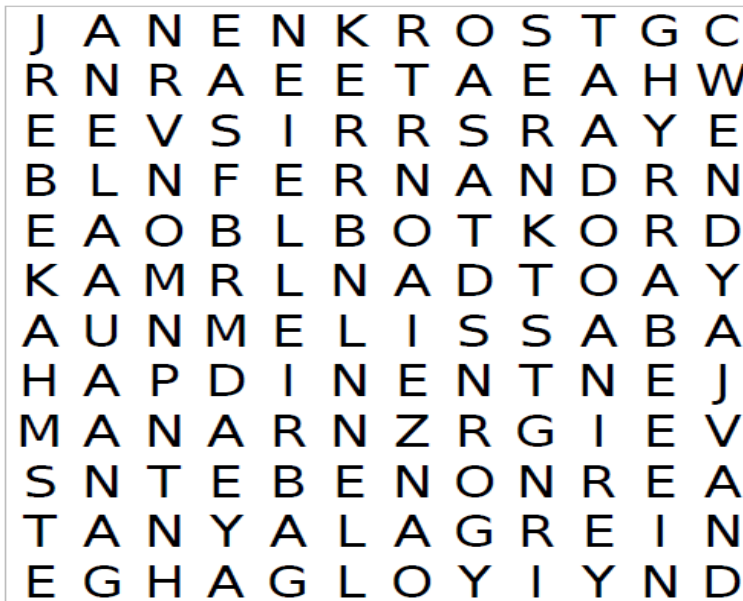
“The National Weather Service (NWS) provides weather, hydrologic, and climate forecasts and warnings for the United States, its territories, adjacent waters and ocean areas, for the protection of life and property and the enhancement of the national economy. NWS data and products form a national information, database and infrastructure which can be used by other government agencies, the private sector, the public, and the global community.”



Online: www.weather.gov/Wichita

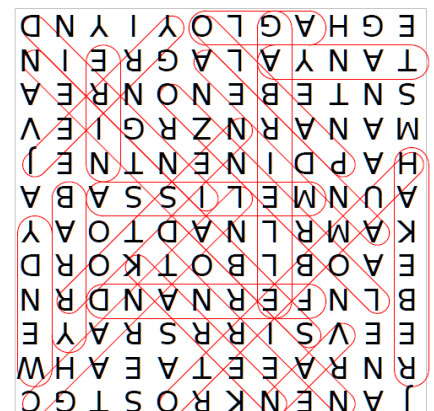
2013 Hurricane Names NWS Wichita

Find the words that are associated with the names for the 2013 Tropical Storms and Hurricanes.



NWS Wichita Word Search

Answer Below:



Andrea
Erin
Ingrid
Melissa
Rebekah
Wendy

Barry
Fernand
Jerry
Nestor
Sebastien

Chantal
Gabrielle
Karen
Olga
Tanya

Dorian
Humberto
Lorenzo
Pablo
Van